



## ABSTRACT OF THE DISCLOSURE

The present invention is a system, apparatus and method for Voice over Internet Protocol (VoIP) telephone calling using enhanced SS7 signaling packets and may include localized time slot interchanging. A system embodiment of the invention includes originating and terminating VoIP gateway switches in communication with the public switched telephone network (PSTN) and also in communication with an IP-based packet network, such as the Internet, for transmitting packets. The VoIP gateway switches are configured to exchange enhanced SS7 signaling packets over the IP-based packet network for setting up and tearing down VoIP telephone calls. A method of placing a VoIP telephone call in accordance with the present invention includes initiating a telephone call to a destination and connecting the telephone call to an originating VoIP gateway switch using enhanced SS7 signaling packets. The method also includes determining a preferred route from the originating VoIP gateway switch to the destination through an IP-based packet network and through a terminating VoIP gateway switch nearest the destination, and setting up two-way communication through the preferred route using the IP-based packet network using enhanced SS7 signaling packets.